Learn the basics of RSockets Java & JS with an online game example
Step 1: The Plan

Intro
Learn the RSocket basics and the target application architecture and design

Game Server
Connect Browser UI to Game Server via RSocket. Integrate Spring with Micrometer

Mesh
Connect multiple game servers together via RSocket
Step 2: Before You Start

Who this workshop is for

- You know a bit of Spring
- You know a bit of Reactive Programming
- You want to learn more!
Step 3: What's next

- Open `workshop.bomberman.xyz` and clone the repo. Start from the `initial` branch, peak (don't) at `master`.
- You can follow the steps
- We are going to code
- You need to ask questions. We will be answering them.
• Open Source Layer 5/6 communication protocol
• Implements Reactive Streams semantics
• Supports both RPC and event-based messaging
• Up to 10x faster than HTTP/1.1, using 90% less resources
Architecture 1.0
Architecture 1.0
Architecture 1.0
Architecture 1.0

Rooms:
room1, room2

Players:
player1, player2
Architecture 1.0

create room

room created event
Architecture 1.0

(join game)

room updated event

(join game)
Architecture 1.0

launch game
LET'S CODE

We hope you'll learn something new!
Performance

Performance is important...
Observability is more important...
What to monitor

CPU monitoring is important ...
What to monitor

CPU monitoring is important ...

Memory can be surprisingly important
What to monitor

CPU monitoring is important ...

Memory can be surprisingly important

There are things specific to highly collaborative applications
Streams

Error Rate
Streams
Streams

NEXT NEXT NEXT NEXT

COMPLETE

ERROR

+ CANCEL frame
Streams

NEXT  NEXT  NEXT  NEXT  COMPLETE
+ CANCEL frame
+ in/out
ERROR
LET'S CODE

We hope you'll learn more things about RSocket observability!
Architecture 1.0

Local Server

start game

start game
Architecture 1.0

Local Server

Network

start game

start game
Architecture 1.0

Local Server

Network

NAT
Architecture 2.0

Local Server

Discovery Server

Local Server

start game

start game
Architecture 2.0

Local Server

start game

Discovery Server

Local Server

start game
Architecture 2.0

Local Server

rooms.join

Room
Architecture 2.0

Local Server

rooms.join

RoomService#findAndJoin

Room#join
Architecture 2.0

Local Server

Remote Server

Room

rooms.join
Architecture 2.0

Local Server

Remote Server

rooms.join

RoomService#findAndJoin

Room#join
Architecture 2.0

Local Server

rooms.join.remote

Remote Server

RoomService#findAndJoin
Room#join
Architecture 2.0

Local Server
- LocalRoomService#findAndJoin

Remote Server
- RoomService#findAndJoin
- Room#join
Architecture 2.0

Local Server

LocalRoomService#findAndJoin

RemoteRoomService#findAndJoin

Remote Server

RoomService#findAndJoin

Room#join

rooms.join
Architecture 2.0

Local Server

Remote Server

rooms.join

RoomService#findAndJoin

Room#join

Room
Architecture 2.0

Local Server

Remote Server
LET'S CODE

We hope you'll learn more things about RSocket observability!
THANK YOU!

We hope you learned a lot of new things!